What Is Claimed Is:

1. A method for correcting the position of the angle marks (k) of an incremental gear (2) of a rotary speed sensor and/or a rotary angle sensor (1,2,3,4) of an internal combustion engine, characterized by the following steps:

a) recording the angle marks (k) using the rotary speed sensor and/or the rotational angle sensor (1,2,3,4),

b) measuring the combustion chamber pressure ($p_{zyl}(1)$, $p_{zyl}(2)$... $p_{zyl}(2M/Z)$) in the respective cylinder (5a, 5b) of the internal combustion engine,

c) assigning a measured pressure value (p_{zyl} (1), p_{zyl} (2)... p_{zyl} (2M/Z)) to the recorded angle mark positions ($\varphi_{inkr,real}(k)$),

d) possibly correcting the measured pressure values ($p_{zyl}(1)$, $p_{zyl}(2)$ ... $p_{zyl}(2M/Z)$) in a signal-conditioning device (12),

e) storing the recorded angle mark positions ($\varphi_{inkr,real}(k)$) with the appertaining, measured pressure values ($p_{zyl}(1)$, $p_{zyl}(2)$... $p_{zyl}(2M/Z)$) in a measured value table (11),

f) storing of the ideal pressure values $p_{zyl,ideal}(1)$, $p_{zyl,ideal}(2)$,...$p_{zyl,ideal}(2M/Z)$ being derived at the ideal angle mark positions ($\varphi_{inkr,ideal}(k)$) in a reference table (9),

g) comparing the pressure values ($p_{zyl}(1)$, $p_{zyl}(2)$ ... $p_{zyl}(2M/Z)$), that were measured and possibly preprocessed in the signal-conditioning device (12), to the ideal pressure values ($p_{zyl,ideal}(1)$, $p_{zyl,ideal}(2)$ ... $p_{zyl,ideal}(2M/Z)$),

h) determining deviations ($\Delta\varphi_{KW,Korr}(k)$) of the measured angle mark positions ($\varphi_{inkr,real}(k)$) from the ideal angle mark positions ($\varphi_{inkr,ideal}(k)$) at the corresponding cylinder pressure values ($p_{zyl}(1) = p_{zyl,ideal}(1)$, $p_{zyl}(2) = p_{zyl,ideal}(2)$, $p_{zyl}(2M/Z) = p_{zyl,ideal}(2M/Z)$) in an evaluation unit (13),

i) correcting the measured angle mark positions ($\varphi_{inkr,real}(k)$) by the deviations determined ($\Delta\varphi_{KW,Korr}$).

2. The method as recited in Claim 1,

wherein the method is carried out in predefined operating states of the internal combustion engine, especially in the combustion-free overrun condition.

3. The method as recited in Claim 1 or 2,
wherein the determination of deviations ($\Delta\varphi_{kw,Korr}$) of the measured angle mark positions from the ideal angle mark positions takes place in the range of clearly defined cylinder pressure values.

4. The method as recited in Claim 3,
wherein the clearly defined cylinder pressure values are maximum values in the compression phase and/or the expansion phase of the respective cylinder.

5. The method as recited in Claim 4,
wherein the maximum values are determined via the derivatives of the combustion chamber pressure signals with respect to the shaft angle.

6. The method as recited in one of the preceding claims,
wherein the correction of the measured pressure values according to step d) is performed by the least squares estimating method.

7. The method as recited in Claim 6,
wherein, in the least squares estimating method, an amplification factor a and an offset factor b are estimated, the following sum

$$\sum_{i=1}^{2M/Z}\left[p_{zyl,table}(i)-\left(a\cdot p_{zyl,measurement}(i)+b\right)\right]^2 \rightarrow Min$$

tending to a minimum.

8. The method as recited in one of the preceding claims,
wherein the cylinder pressure values are first measured and stored over several working cycles, and these cylinder pressure values are averaged for the individual angle mark positions.

9. The method as recited in one of the preceding claims,
wherein the operating state of the internal combustion engine is monitored using an operating point detector (10).

10. The method as recited in one of the preceding claims,
wherein the incremental gear (2) has various segments (Z) which are respectively assigned to one cylinder, a signal evaluation unit (13) assigning individual cylinders to the segments from the measured mark positions, and the pressure values of the respective cylinder being assignable to the respective segment.

11. The method as recited in one of the preceding claims,
wherein a rotary speed function of the recording of the angle mark positions is compensated for.

12. The method as recited in Claim 11,
wherein the calibration of the angle mark separation distances is carried out from the cylinder pressure signal at different rotary speeds and is stored in the angle correction table as a function of rotary speed.

13. A system for implementing the method as recited in one of the preceding claims, which comprises:
- rotary speed sensors and/or rotary angle sensors, having an incremental gear (1), that has angle marks (K), that follows the rotational movement of a shaft, and at least one sensor element (2),
- measuring sensors (6a, 6b) which measure the pressure values of the combustion chamber pressures in the individual cylinders (5a, 5b) of the internal combustion engine,
- a control unit having a signal evaluation (8), having a measured value table (11), a reference table (9), possibly having a signal-conditioning device (12), having an evaluation unit (13) and having an angular correction table (14).